

SUBSTITUTE

SEQUENCE LISTING

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Chun Jeih Ryu
Hangsook Hur

<120> HUMANIZED ANTIBODY SPECIFIC FOR SURFACE
ANTIGEN PRE-S1 OF HBV AND PREPARATION METHOD THEREOF

<130> 118.13USWO

<140> 09/856,114

<141> 2001-05-18

<150> PCT/KR99/00699

<151> 1999-11-19

<150> 1998-49663

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<223> Variable region of heavy chain in mouse KR127
antibody

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Ser	Val	Lys	Ile	Ser	Cys	Lys	Ala	Ser	Gly	Tyr	Ala	Phe	Ser	Ser	Ser			
			20					25					30					
Trp	Met	Asn	Trp	Val	Lys	Gln	Arg	Pro	Gly	Gln	Gly	Leu	Glu	Trp	Ile			
		35					40					45						
Gly	Arg	Ile	Tyr	Pro	Gly	Asp	Gly	Asp	Thr	Asn	Tyr	Asn	Gly	Lys	Phe			
	50					55					60							
Lys	Gly	Lys	Ala	Thr	Leu	Thr	Ala	Asp	Lys	Ser	Ser	Ser	Thr	Ala	Tyr			
65					70				75						80			
Met	Gln	Leu	Ser	Ser	Leu	Thr	Ser	Val	Asp	Ser	Ala	Val	Tyr	Phe	Cys			
				85					90					95				
Ala	Arg	Glu	Tyr	Asp	Glu	Ala	Tyr	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr			
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Val	Ser	Ala																
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<210> 20

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<223> Variable region of humanized heavy chain
HKR127HC (HZI)

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Ser	Val	Lys	Val	Ser	Cys	Lys	Ala	Ser	Gly	Tyr	Ala	Phe	Ser	Ser	Ser			
			20					25					30					
Trp	Met	Asn	Trp	Val	Arg	Gln	Ala	Pro	Gly	Gln	Gly	Leu	Glu	Trp	Ile			
		35					40					45						
Gly	Arg	Ile	Tyr	Pro	Gly	Asp	Gly	Asp	Thr	Asn	Tyr	Ala	Gln	Lys	Phe			
	50					55					60							
Gln	Gly	Lys	Ala	Thr	Leu	Thr	Ala	Asp	Lys	Ser	Thr	Ser	Thr	Ala	Tyr			
65					70				75						80			
Met	Glu	Leu	Ser	Ser	Leu	Arg	Ser	Glu	Asp	Thr	Ala	Val	Tyr	Phe	Cys			
				85					90					95				
Ala	Arg	Glu	Tyr	Asp	Glu	Ala	Tyr	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr			
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Val	Ser	Ser																
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<210> 21

<211> 115

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<223> Variable region of humanized heavy chain
HKR127HC(HZIIII)

<400> 21

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Ser	Val	Lys	Val	Ser	Cys	Lys	Ala	Ser	Gly	Tyr	Thr	Phe	Thr	Ser	Ser	
			20					25					30			
Trp	Met	Asn	Trp	Val	Arg	Gln	Ala	Pro	Gly	Gln	Gly	Leu	Glu	Trp	Met	
		35					40					45				
Gly	Arg	Ile	Tyr	Pro	Gly	Asp	Gly	Asp	Thr	Asn	Tyr	Ala	Gln	Lys	Phe	
	50					55				60						
Gln	Gly	Arg	Val	Thr	Met	Thr	Ala	Asp	Lys	Ser	Thr	Ser	Thr	Val	Tyr	
65					70					75					80	
Met	Glu	Leu	Ser	Ser	Leu	Arg	Ser	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys	
				85					90					95		
Ala	Arg	Glu	Tyr	Asp	Glu	Ala	Tyr	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	
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Val	Ser	Ser														
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<210> 22

<211> 113

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<213> Artificial Sequence

<220>

<223> Variable region of light chain in mouse KR127
antibody

<400> 22

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Gln	Pro	Ala	Ser	Ile	Ser	Cys	Lys	Ser	Ser	Gln	Ser	Leu	Leu	Tyr	Ser	
			20					25					30			
Asn	Gly	Lys	Thr	Tyr	Leu	Asn	Trp	Leu	Leu	Gln	Arg	Pro	Gly	Gln	Ser	
		35					40					45				
Pro	Lys	Arg	Leu	Ile	Tyr	Leu	Val	Ser	Lys	Leu	Asp	Ser	Gly	Val	Pro	
	50					55				60						
Asp	Arg	Phe	Thr	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile	
65					70					75					80	
Ile	Arg	Val	Glu	Ala	Glu	Asp	Leu	Gly	Val	Tyr	Tyr	Cys	Val	Gln	Gly	
				85					90					95		
Thr	His	Phe	Pro	Gln	Thr	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Glu	Ile	Lys	
			100					105					110			
Arg																

<210> 23

<211> 113

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 20 25 30
 Asn Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Lys Pro Gly Gln Ser
 35 40 45
 Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro
 50 55 60
 Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80
 Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Val Gln Gly
 85 90 95
 Thr His Phe Pro Gln Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110
 Arg

<210> 24
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 <223> Synthetic oligonucleotide primer 24

<400> 24
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27

<210> 25
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 <212> DNA
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<220>
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<400> 25
 agttcttgga tgaactgggt gcgacga

27

<210> 26
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 <212> DNA
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<220>
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<400> 26
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<210> 27
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<400> 27
 gacaaatcca cgagcacagt ctacatg 27

<210> 28
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 <223> KR127

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 cctggacagg gtcttgagtg gattggacgg atttaccctg gagatggaga tactaactac 180
 aatgggaagt tcaagggcaa ggccacactg actgcagaca aatcctccag cacagcctac 240
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<223> HZII

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cctggacagg gtcttgagtg gatgggacgg atttatcctg gagatggaga tactaactac 180
gcacagaagt tccagggcag agtcacaatg actgcagaca cgtccacgag cacagtctac 240
atggagctca gcagcctgag atctgaggac acggcgggtct attactgtgc aagagagtac 300
gacgaggact actggggcca agggactctg gtcactgtct cttca 345

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<223> HZI

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20	25	30	
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35	40	45	
Gly Arg Ile Tyr Pro Gly Asp Gly Asp Thr Asn Tyr Ala Gln Lys Phe			
50	55	60	
Gln Gly Arg Val Thr Met Thr Ala Asp Thr Ser Thr Ser Thr Val Tyr			
65	70	75	80
Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys			
85	90	95	
Ala Arg Glu Tyr Asp Glu Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr			
100	105	110	
Val Ser Ser			
115			

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ttattacaga ggccaggcca gtctccaaag cgcctaattc atctgggtgc taaactggac	180
tctggagtcc ctgacagggt cactggcagt ggatcaggaa cagattttac actgaaaatc	240
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cagacgttcg gtggaggcac caagctggaa atcaaacgg	339

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<220>
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ttattacaga agccaggcca gcctccacag ctctaatct atctgggtgc taaacgggtc      180
tctggagtcc ctgacagggt cagtggcagt ggatcaggaa cagattttac actgaaaatc      240
agcagagtgg aggctgagga tgttgaggtt tattactgcg tgcaagggtac acattttcct      300
cagacgttcg gtggaggcac caaggtggaa atcaaacgg      339

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<210> 37
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<212> PRT
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<220>
<223> HZII

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Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser
      20             25             30
Asn Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Lys Pro Gly Gln Pro
      35             40             45
Pro Gln Leu Leu Ile Tyr Leu Val Ser Lys Arg Phe Ser Gly Val Pro
      50             55             60
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65             70             75             80
Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Val Gln Gly
      85             90             95
Thr His Phe Pro Gln Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
      100            105            110

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Arg

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<210> 38
<211> 294
<212> DNA
<213> Artificial Sequence

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<220>
<223> DP7

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cctggacaag ggcttgagtg gatgggaata atcaacccta gtggtggtag cacaagctac      180
gcacagaagt tccagggcag agtcaccatg accagggaca cgtccacgag cacagtctac      240
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